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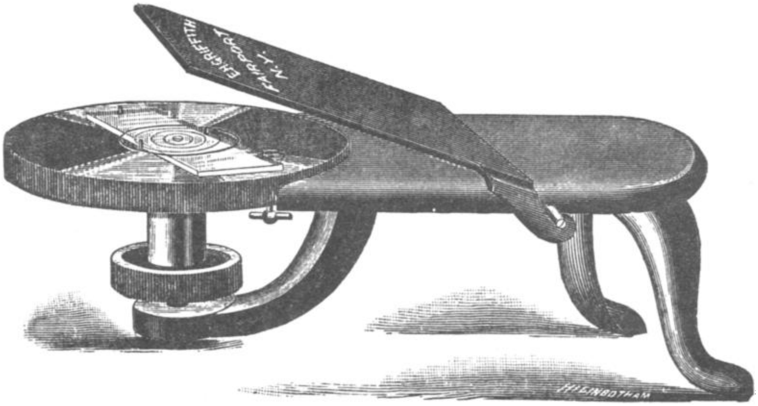
SOME NEW AND IMPROVED APPARATUS.

By E. H. Griffith, F. R. M. S., Fairport, N. Y.

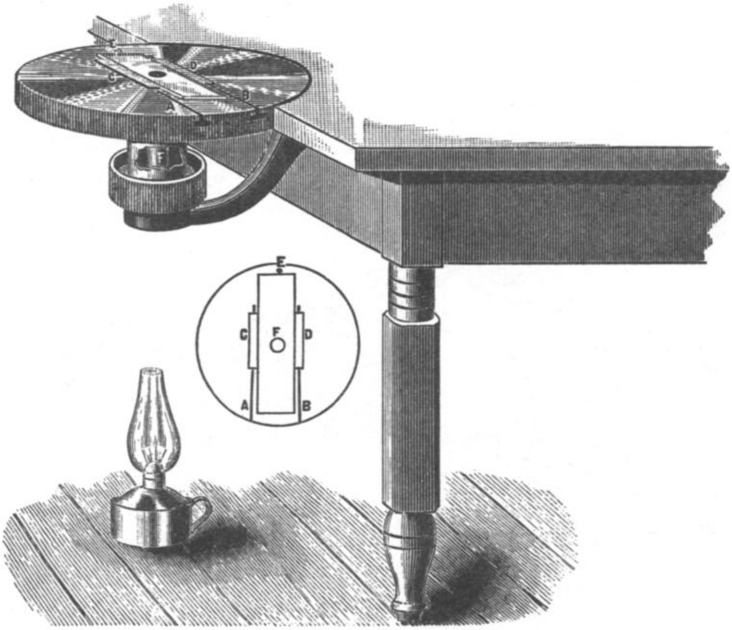
GRIFFITH TURN-TABLE NO. 4, IMPROVED.

The center of the Table, marked with the circles, has a straight spring attached to it beneath. The slide being placed between the two pins in this center, is partially rotated against the spring and pushed forward, when the spring keys it between the two pins and a third fixed pin at the upper side of the slide, centering it perfectly for width. The fourth pin at the left end, 1½ inches from the center, is for length, and allows the slide to be always placed in the same relative position. The recent improvements add much to the value of the table. One of them is a countersunk decentering wheel and pin, which may be seen at the upper right-hand side of the slide. The axle of the wheel passes through the table and is furnished underneath with a short bar with which the decentering wheel may be turned, forcing the pin against the slide, pushing it as far out of center as may be desired. Another improvement is in making the end-pin a screw which may be turned down out of the way if desired.



GRIFFITH TURN-TABLE NO. 6.

This Table has two grooves, A and B, milled across the upper surface, equidistant from the center and tending towards a common point beyond. To these grooves are fitted two followers, and to the followers are fastened two thin, narrow brass plates, C and D, parallel to each other, and which are the slide-holders. The pin, E, is a small screw which may be turned back out of the way or used as an end-pin, it being 1½ inches from the center of the table. The slide may be placed between the two plates, C and D, and made to abut against the end-pin, E. Then if C and D are pushed the same distance in the direction of E, they will clamp the slide firmly and center it perfectly for width. If it be desired to decenter the slide, one of the plates must be pushed farther than the other.

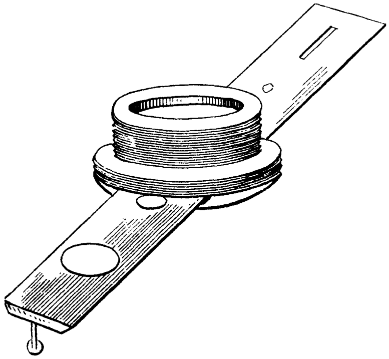


Some years ago General William Humphrey, of Jackson, Mich., an expert preparer of slides, suggested that an arrangement for illuminating the center of slides would be of great convenience, and the hollow spindle in this Turn-table is the result of the suggested need. A small mirror may be placed underneath and the light be reflected through the spindle, or a lamp may be used for the same purpose.

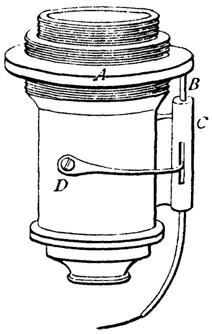
GRIFFITH SUB-STAGE DIAPHRAGM.

The Griffith Sub-Stage Diaphragm is intended as a substitute for the cheaper kind. The principal claims for it are that it will do the work well that is required of much more expensive ones, and as it is placed in the center of the sub-stage fitting, and so constructed that it may be turned in any direction, many effects may be secured by simply moving the slide. Being central it is not so much in the way as some other forms.

It is simply a perforated metal button fitting the society-screw of the sub-stage. Through the head is a groove, cut with a milling-machine, which is provided with a diaphragm slide which has different sized and shaped apertures which can be placed exactly central by means of stops, or out of center if desired. The slit can be made to be perpendicular, diagonal or longitudinal to the slide, as desired, by turning the button.



THE GRIFFITH MECHANICAL FINGER OBJECTIVE.



The collar, *A* (*fig.*), moves on a fine thread and forces down the bristle-holder, *B*. A slit in *C* keeps *B* in position. On turning *A* back, the spring, *D*, lifts the finger. The jacket to which *C* and *D* are attached turns on the objective. So that the object picked up, *e. g.*, a diatom, may be turned as desired. By lifting *D* the finger can be removed.